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(56) Documents cited

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(58) Field of search

UK CL (Edition J) B7J  
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## (54) Spray reducing wheel guard

(57) A water spray reducing wheel guard is constructed of vanes 4 and 5, with mesh 8 and 10 or singularly of vane 4 and mesh 10. It is mounted at a vehicle road wheel such that water droplets imported from the wheel pass into the vane 4 along with air passing through mesh 10 and enter passages 6 where their forward movement is changed to a centrifugal action by the channels 7 separating the air and water with the water falling into the gutter 9.

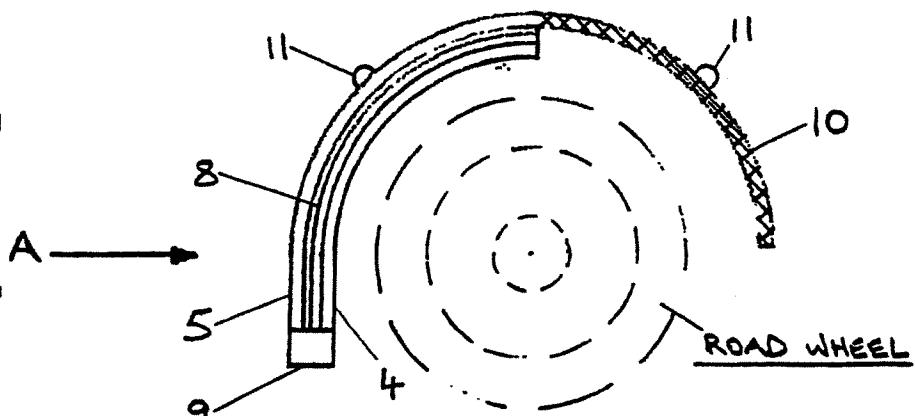
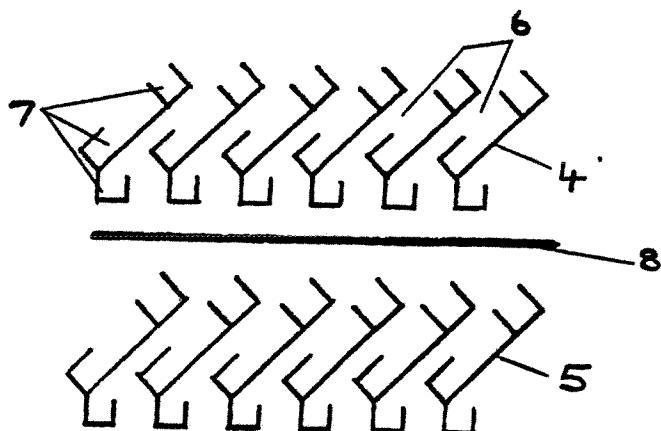
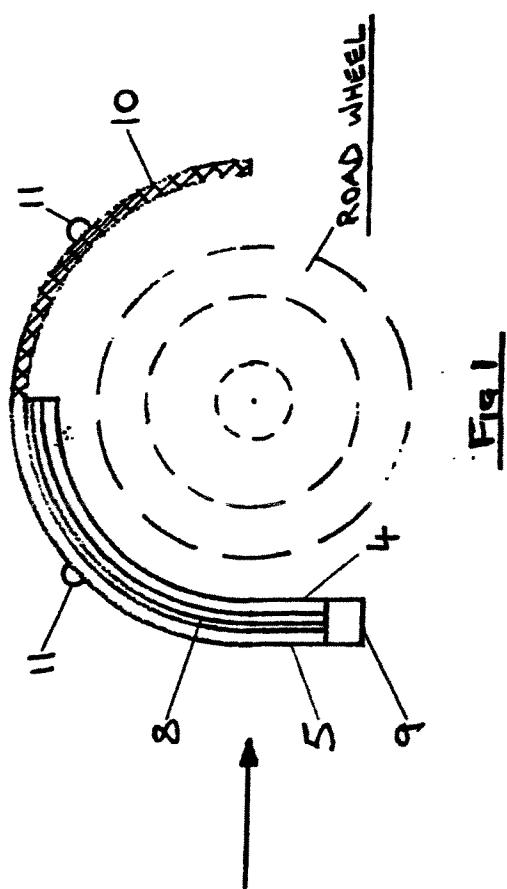
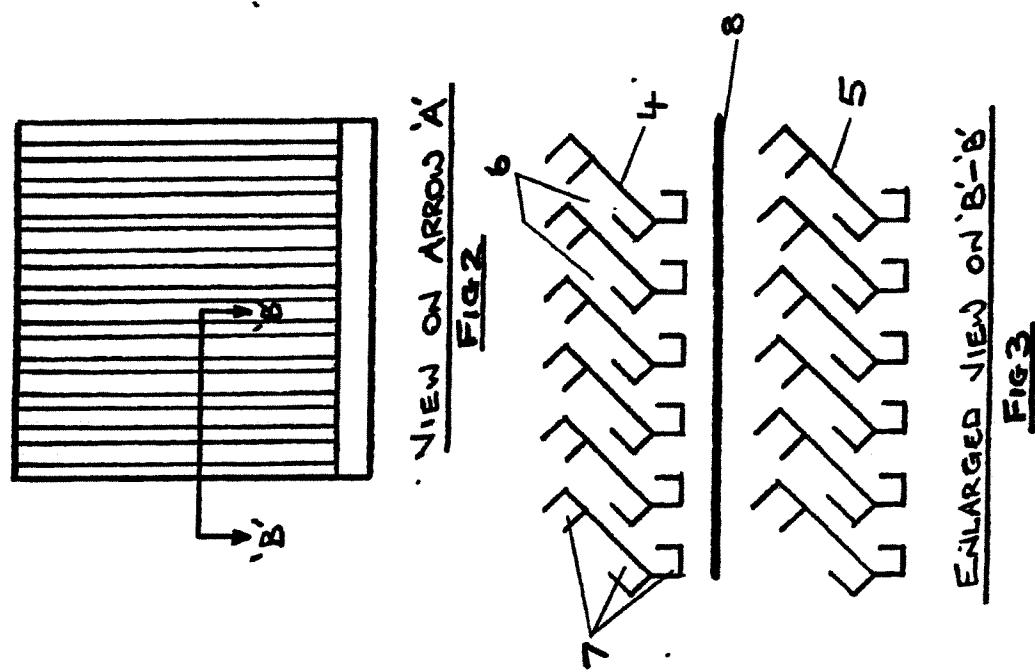


Fig 1



ENLARGED VIEW ON 'B'- 'B'  
Fig 3

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## WATER SPRAY REDUCING WHEEL GUARD

This invention relates to a road vehicle water spray reducing wheel guard.

Wheel guards are fitted to road going vehicles in the form of a purpose built covering fitted at the rear wheels of commercial vehicles, or as included in the body panels of private and commercial vehicles. Presently these guards are constructed from flat pieces of metal or rubber.

In wet weather, water droplets which are thrown from the vehicle road wheels are reduced to a fine spray or atomised by the force of impact on the wheel guard. This fine spray is emitted from the sides and rear of the vehicle and often results in a hazard to following vehicles. A faster vehicle road speed resulting in a greater amount of emitted water spray.

According to the present invention there is provided a wheel guard which is constructed so that water thrown from a vehicle road wheel will be gathered and emitted from the guard in a controlled manner in order to prevent the formation of hazardous water spray.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:-

Figure 1 - shows the side view of the water reducing wheel guard fitted at a vehicle road wheel.

Figure 2 - illustrates an end view of the water spray reducing wheel guard.

Figure 3 - illustrates the arrangement of vanes and mesh in the construction of the water spray reducing wheel guard.

Referring to the drawing the water spray reducing wheel guard comprises vanes 4 & 5 between which is mounted a mesh 8. The vanes 4 & 5 terminate in gutter 9. Mesh 10 is provided to allow the ingress of air to the upstream side of the vane arrangement. Lugs 11 are provided for mounting the guard on the vehicle.

Water droplets that are imparted from the road wheel pass into vane 4 along with air which is moving at a velocity relative to the vehicles road speed. The air and water enter passages 6 where their forward movement is changed to a centrifugal action by channels 7. This centrifugal action, as is known, separates lighter and heavier components and therefore separates air from water with water falling to the gutter 9.

Air leaving vane 4 passes through mesh 8 where small droplets of water that have been carried over from vane 4 are deposited. On combining these droplets achieve a larger mass and are then carried over by air velocity to vane 5 where the air and water undergo action as in vane 4, water passing to gutter 9 and air exiting from the rear of vane 5.

Water is exited from either end of the gutter 9 and deposited on the roadway.

CLAIMS

1. A water spray reducing wheel guard comprises two air and water separation vanes with an integral mesh and forward air ingress mesh. Means are provided to securely hold this assembly in a robust manner.
2. A water spray reducing wheel guard as claimed in Claim 1 but made from a single vane and forward air ingress mesh.
3. A water spray reducing wheel guard as claimed in Claim 1 or Claim 2 with channels 7 constructed with adjacent sides at right angles.
4. A water spray reducing wheel guard as claimed in Claim 1 or Claim 2 with channels 7 constructed in a curved or scrolled manner.
5. The water spray reducing wheel guard as claimed in Claim 1 or Claim 2 may be shaped or adapted to fit all vehicles.
6. The water spray reducing wheel guard as claimed in Claim 1 or Claim 2 may be constructed in all suitable materials.